

Creating Interactive Dashboards Using Excel with Data, Pivot Tables, Charts, and Slicers

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Introduction to Excel Dashboards

What is a Dashboard?

A dashboard is a visual interface that displays key metrics and trends for decision-making. In Excel, dashboards are built using charts, pivot tables, and slicers to provide dynamic insights from raw data.

Why Use Excel Dashboards?

- Easy to build and maintain
- Requires no coding
- Integrates multiple datasets
- Offers interactive filtering using slicers

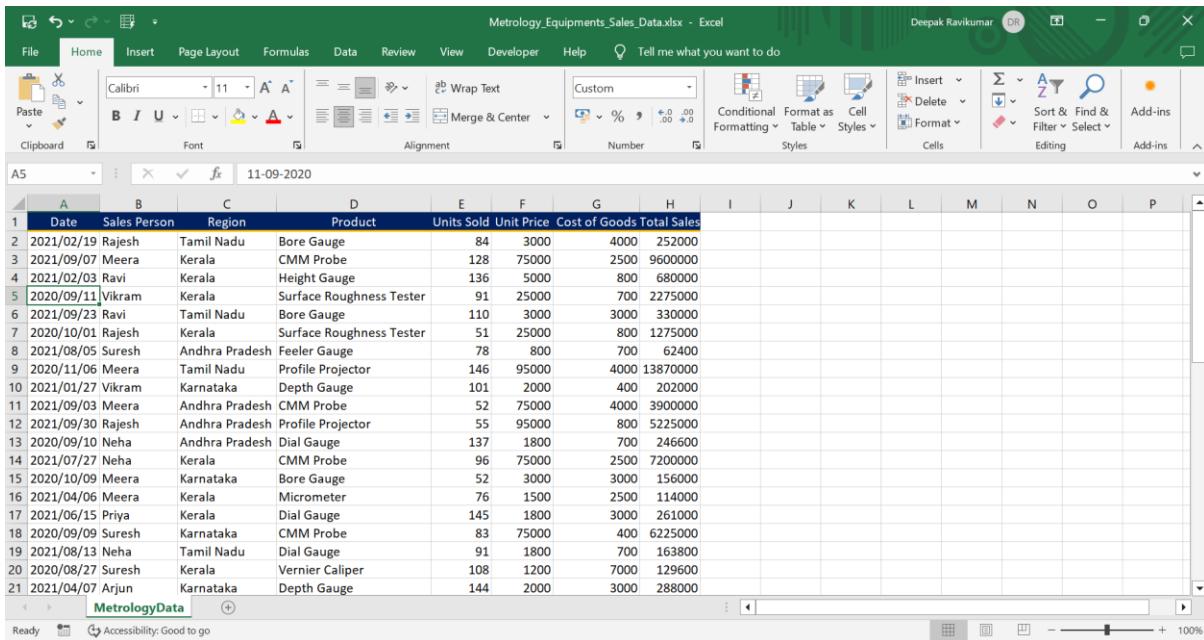
Real-world Use Cases:

- Sales performance tracking
- Inventory management
- Financial dashboards
- HR dashboards for attendance and recruitment

Preparing Your Dataset for a Dashboard

Data Structure Requirements:

- Columns should have clear headers (e.g., Date, Region, Product, Sales)
- No merged cells or subtotals
- Consistent data types in each column

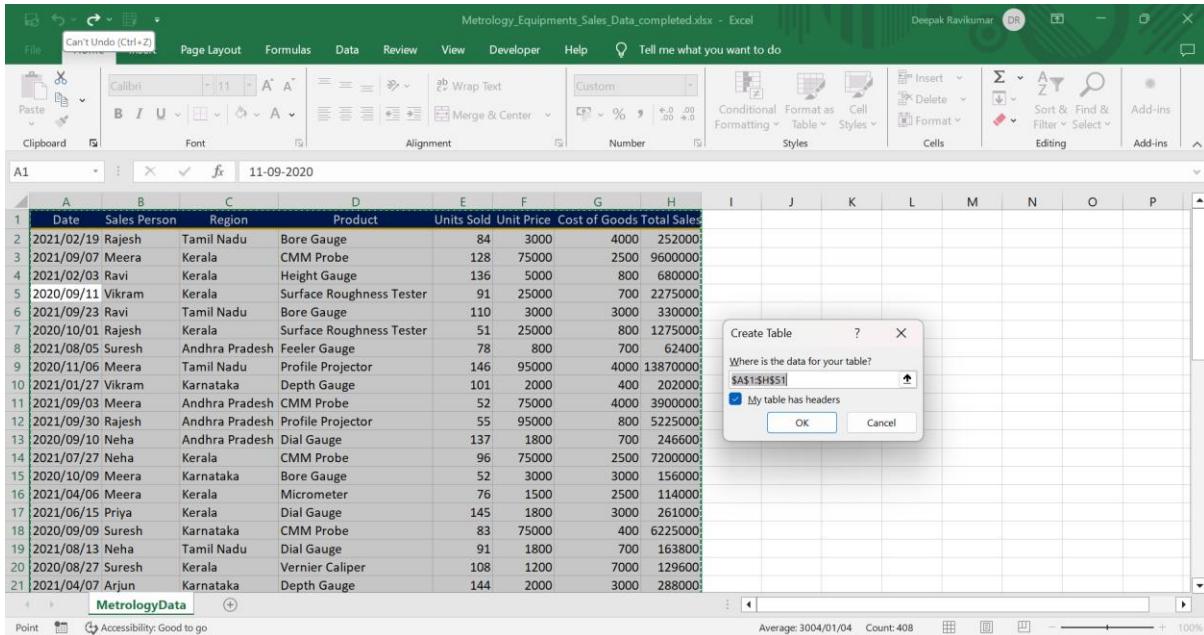


A screenshot of Microsoft Excel showing a sales dataset named "Metroy_Equipments_Sales_Data.xlsx". The table has columns for Date, Sales Person, Region, Product, Units Sold, Unit Price, Cost of Goods, and Total Sales. The data spans from row 1 to row 21. The "Styles" ribbon tab is selected.

	Date	Sales Person	Region	Product	Units Sold	Unit Price	Cost of Goods	Total Sales
2	2021/02/19	Rajesh	Tamil Nadu	Bore Gauge	84	3000	4000	252000
3	2021/09/07	Meera	Kerala	CMM Probe	128	75000	2500	9600000
4	2021/02/03	Ravi	Kerala	Height Gauge	136	5000	800	680000
5	2020/09/11	Vikram	Kerala	Surface Roughness Tester	91	25000	700	2275000
6	2021/09/23	Ravi	Tamil Nadu	Bore Gauge	110	3000	3000	330000
7	2020/10/01	Rajesh	Kerala	Surface Roughness Tester	51	25000	800	1275000
8	2021/08/05	Suresh	Andhra Pradesh	Feeler Gauge	78	800	700	62400
9	2020/11/06	Meera	Tamil Nadu	Profile Projector	146	95000	4000	13870000
10	2021/01/27	Vikram	Karnataka	Depth Gauge	101	2000	400	202000
11	2021/09/03	Meera	Andhra Pradesh	CMM Probe	52	75000	4000	3900000
12	2021/09/30	Rajesh	Andhra Pradesh	Profile Projector	55	95000	800	525000
13	2020/09/10	Neha	Andhra Pradesh	Dial Gauge	137	1800	700	246600
14	2021/07/27	Neha	Kerala	CMM Probe	96	75000	2500	7200000
15	2020/10/09	Meera	Karnataka	Bore Gauge	52	3000	3000	156000
16	2021/04/06	Meera	Kerala	Micrometer	76	1500	2500	114000
17	2021/06/15	Priya	Kerala	Dial Gauge	145	1800	3000	261000
18	2020/09/09	Suresh	Karnataka	CMM Probe	83	75000	400	6225000
19	2021/08/13	Neha	Tamil Nadu	Dial Gauge	91	1800	700	163800
20	2020/08/27	Suresh	Kerala	Vernier Caliper	108	1200	7000	129600
21	2021/04/07	Arjun	Karnataka	Depth Gauge	144	2000	3000	288000

Step-by-step Instructions:

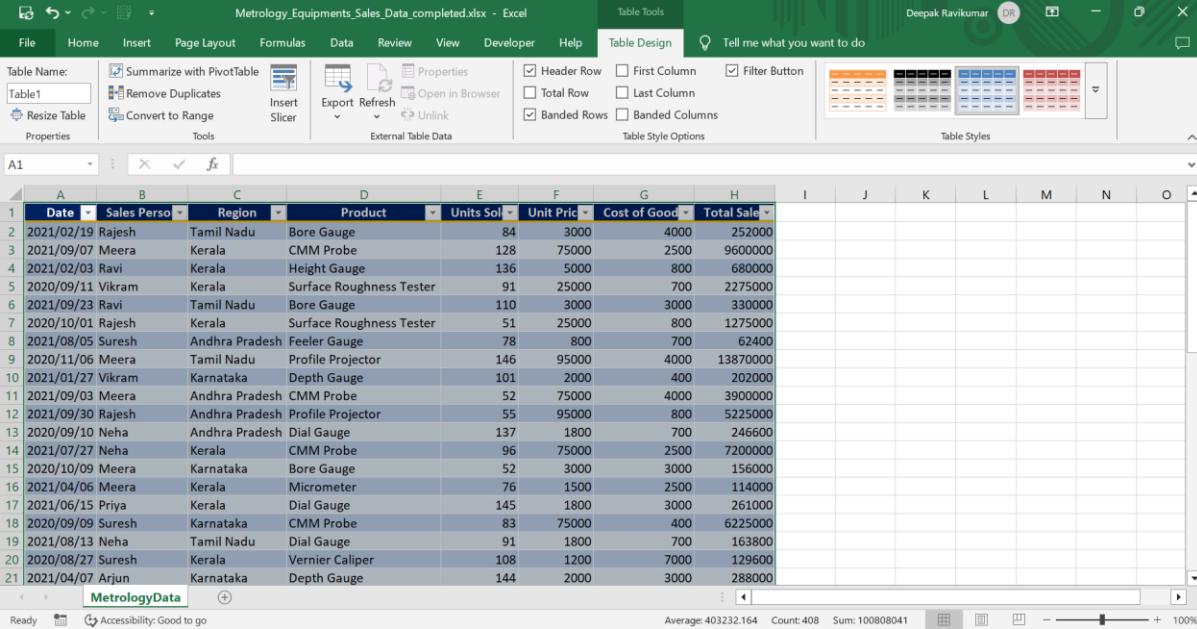
1. Open your Excel sheet and import the dataset (CSV, XLSX, etc.).
2. Select the data range → Press Ctrl + T to create a table.



A screenshot of Microsoft Excel showing a sales dataset named "Metroy_Equipments_Sales_Data_completed.xlsx". The "Create Table" dialog box is open, prompting for the data range (A\$1:\$H\$5) and indicating that the table has headers. The data spans from row 1 to row 21. The "Styles" ribbon tab is selected.

	Date	Sales Person	Region	Product	Units Sold	Unit Price	Cost of Goods	Total Sales
2	2021/02/19	Rajesh	Tamil Nadu	Bore Gauge	84	3000	4000	252000
3	2021/09/07	Meera	Kerala	CMM Probe	128	75000	2500	9600000
4	2021/02/03	Ravi	Kerala	Height Gauge	136	5000	800	680000
5	2020/09/11	Vikram	Kerala	Surface Roughness Tester	91	25000	700	2275000
6	2021/09/23	Ravi	Tamil Nadu	Bore Gauge	110	3000	3000	330000
7	2020/10/01	Rajesh	Kerala	Surface Roughness Tester	51	25000	800	1275000
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21	2021/04/07	Arjun	Karnataka	Depth Gauge	144	2000	3000	288000

3. Name the table (e.g., SalesData) from the Table Design ribbon.



The screenshot shows a Microsoft Excel spreadsheet titled "Metrology_Equipments.Sales_Data_completed.xlsx - Excel". The ribbon is visible at the top with tabs like File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Help, and Table Design. The "Table Design" tab is currently selected. A table named "Table1" is present in the sheet "MetrologyData". The table structure is as follows:

	Date	Sales Perso	Region	Product	Units Sol	Unit Pric	Cost of Good	Total Sale
1								
2	2021/02/19	Rajesh	Tamil Nadu	Bore Gauge	84	3000	4000	252000
3	2021/09/07	Meera	Kerala	CMM Probe	128	75000	2500	9600000
4	2021/02/03	Ravi	Kerala	Height Gauge	136	5000	800	680000
5	2020/09/11	Vikram	Kerala	Surface Roughness Tester	91	25000	700	2275000
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21	2021/04/07	Arjun	Karnataka	Depth Gauge	144	2000	3000	288000

Cleaning the Data:

- Remove blanks or errors using Go To Special → Blanks
- Use Text to Columns for separating values
- Ensure dates are in proper date format
- Check for duplicates via Data → Remove Duplicates

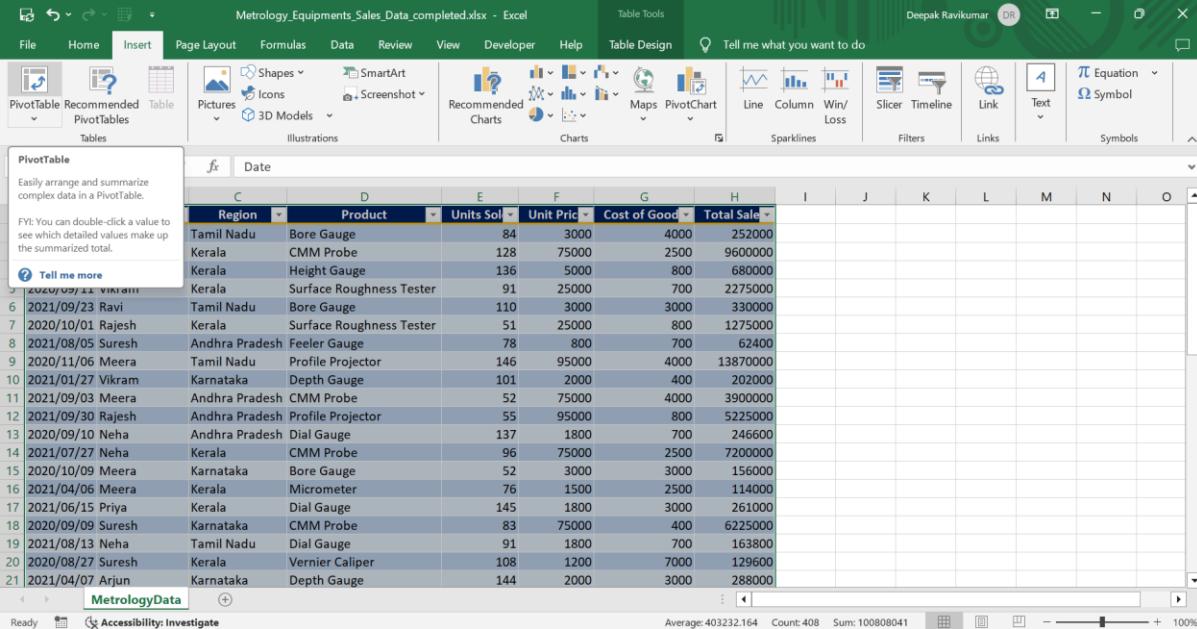
Creating Pivot Tables for Data Summarization

What is a Pivot Table?

A pivot table is a powerful tool in Excel used to summarize, analyze, and explore large amounts of data.

Creating a Pivot Table:

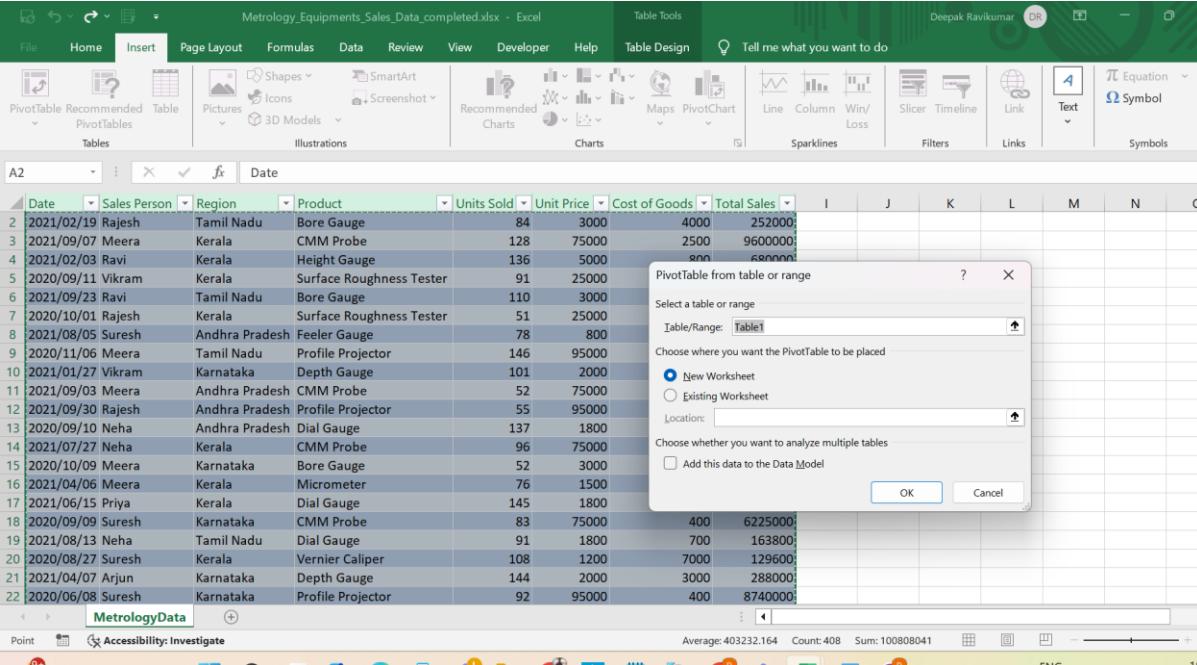
1. Click anywhere in your table.
2. Go to Insert → PivotTable.



The screenshot shows the Microsoft Excel ribbon with the 'Data' tab selected. A PivotTable is displayed in the main workspace, showing sales data for various regions and products. The table includes columns for Region, Product, Units Sold, Unit Price, Cost of Goods, and Total Sales. A tooltip for the 'PivotTable' icon in the ribbon provides information about easily arranging and summarizing complex data.

Region	Product	Units Sold	Unit Price	Cost of Goods	Total Sales	
Tamil Nadu	Bore Gauge	84	3000	4000	252000	
Kerala	CMM Probe	128	75000	2500	9600000	
Kerala	Height Gauge	136	5000	800	680000	
Kerala	Surface Roughness Tester	91	25000	700	2275000	
Tamil Nadu	Bore Gauge	110	3000	3000	330000	
Kerala	Surface Roughness Tester	51	25000	800	1275000	
Andhra Pradesh	Feeler Gauge	78	800	700	62400	
Tamil Nadu	Profile Projector	146	95000	4000	13870000	
Karnataka	Depth Gauge	101	2000	400	202000	
Andhra Pradesh	CMM Probe	52	75000	4000	3900000	
Andhra Pradesh	Profile Projector	55	95000	800	5225000	
2020/09/10 Neha	Andhra Pradesh	Dial Gauge	137	1800	700	246600
2021/07/27 Neha	Kerala	CMM Probe	96	75000	2500	7200000
2020/10/09 Meera	Karnataka	Bore Gauge	52	3000	3000	156000
2021/04/06 Meera	Kerala	Micrometer	76	1500	2500	114000
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2021/04/07 Arjun	Karnataka	Depth Gauge	144	2000	3000	288000

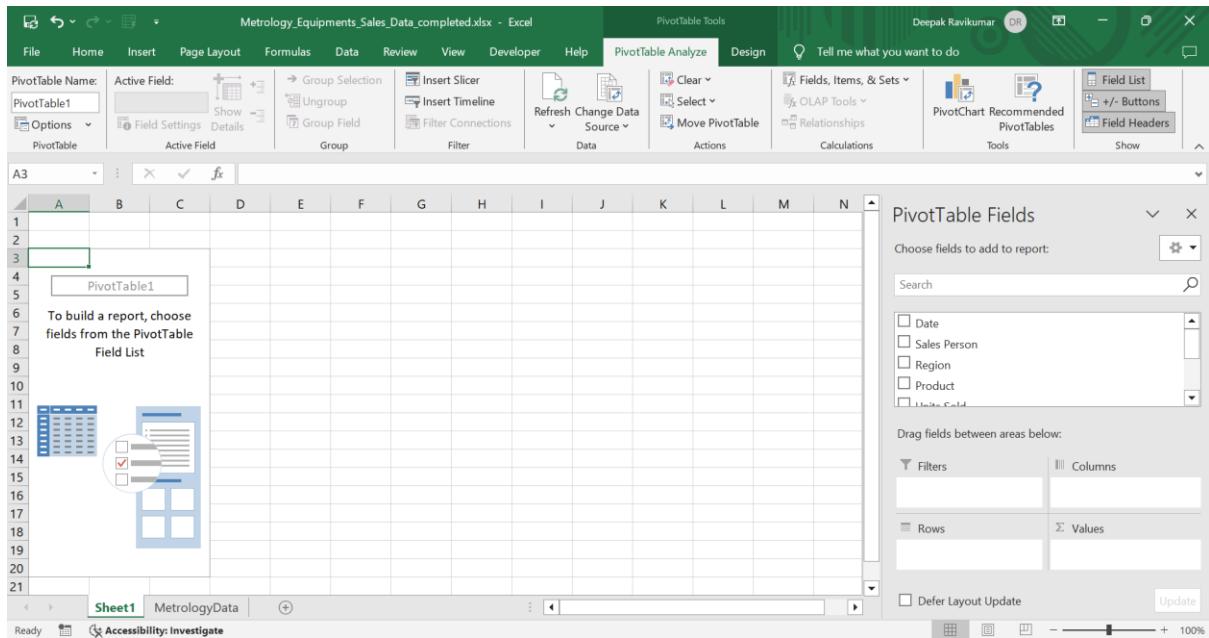
3. Choose to place the pivot table in a new worksheet or the existing one.



The screenshot shows the Microsoft Excel ribbon with the 'Data' tab selected. A PivotTable is displayed in the main workspace, showing sales data for various regions and products. A 'PivotTable from table or range' dialog box is open, prompting the user to choose where to place the PivotTable. The 'New Worksheet' option is selected, and the 'OK' button is visible at the bottom right of the dialog.

Building Your Pivot Table:

- Drag fields to:
 - Rows: for categories (e.g., Region, Product)
 - Columns: for secondary categories (e.g., Month)
 - Values: for numeric summaries (e.g., Sum of Sales)
 - Filters: for top-level filters

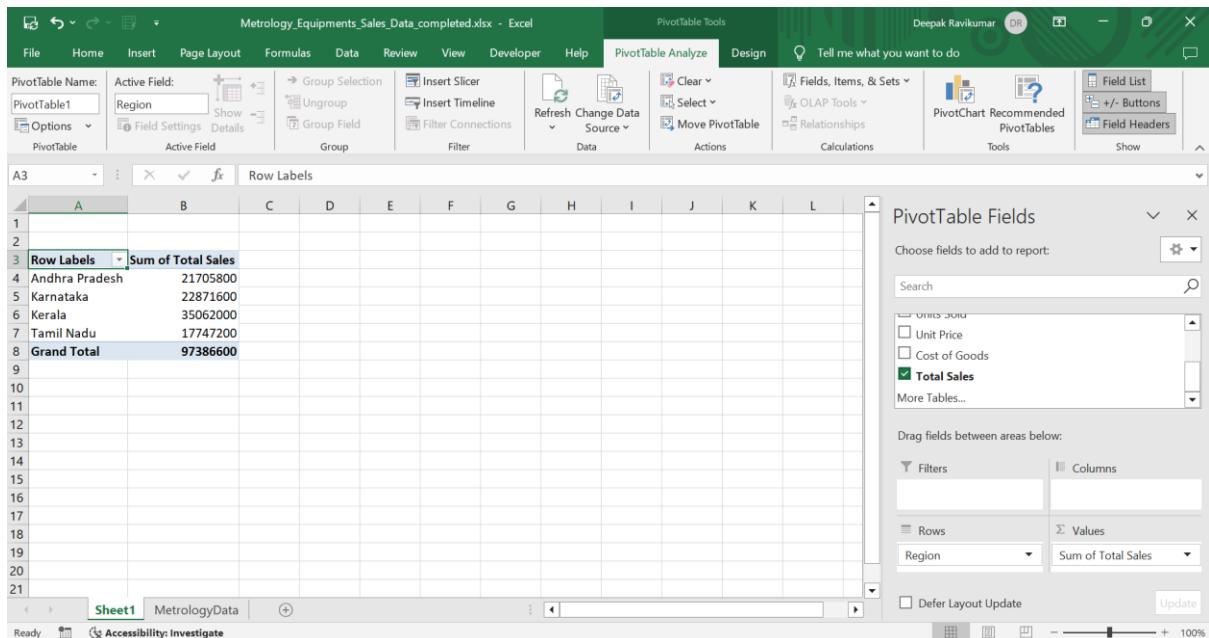


To build a report, choose fields from the PivotTable Field List.

Region	Sum of Total Sales
Andhra Pradesh	21705800
Karnataka	22871600
Kerala	35062000
Tamil Nadu	17747200
Grand Total	97386600

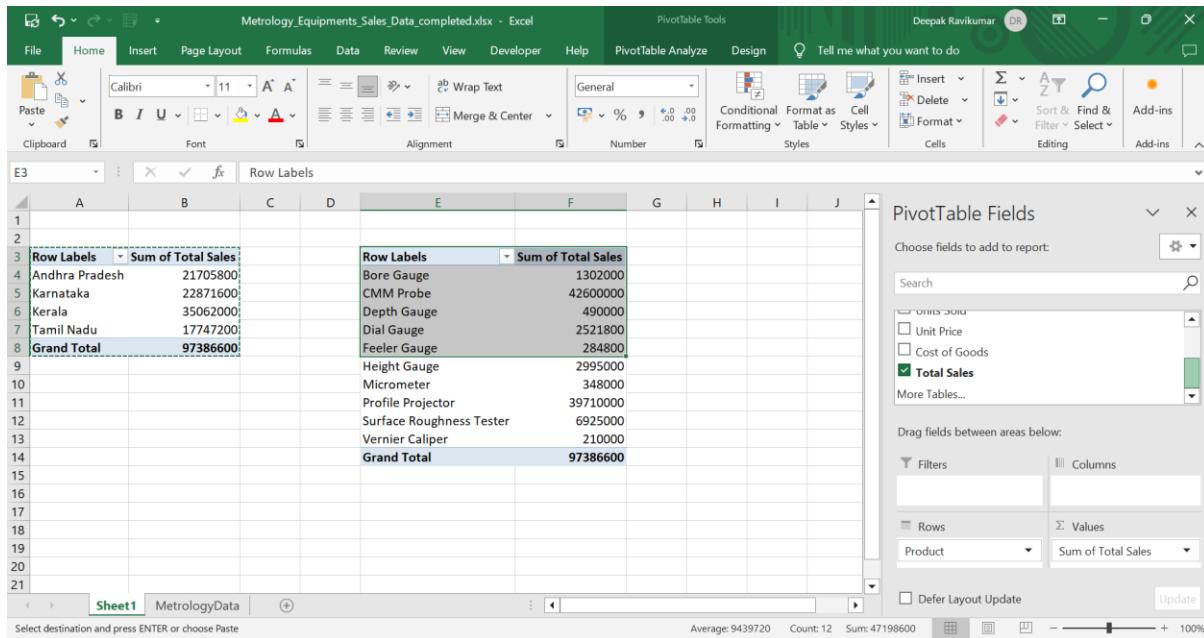
Examples:

- Total Sales by Region



Region	Sum of Total Sales
Andhra Pradesh	21705800
Karnataka	22871600
Kerala	35062000
Tamil Nadu	17747200
Grand Total	97386600

- Quantity Sold by Product and Month

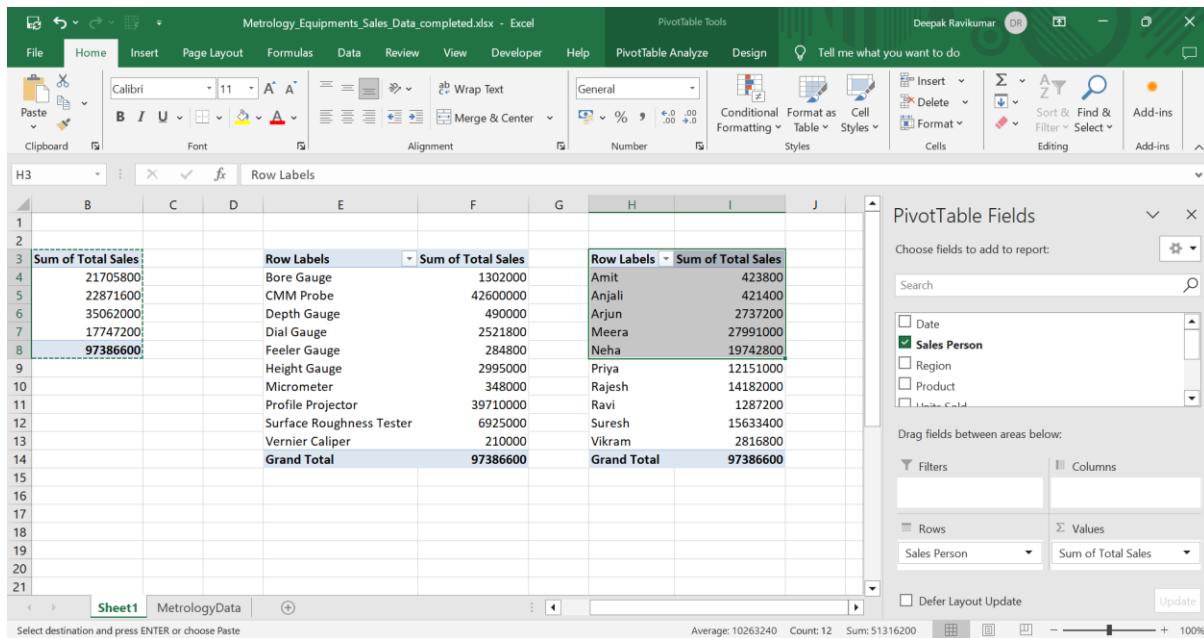


Average: 9439720 Count: 12 Sum: 47198600

	Sum of Total Sales
Andhra Pradesh	21705800
Karnataka	22871600
Kerala	35062000
Tamil Nadu	17747200
Grand Total	97386600

	Sum of Total Sales
Bore Gauge	1302000
CMM Probe	42600000
Depth Gauge	490000
Dial Gauge	2521800
Feeler Gauge	284800
Height Gauge	2995000
Micrometer	348000
Profile Projector	39710000
Surface Roughness Tester	6925000
Vernier Caliper	210000
Grand Total	97386600

- Average Sales per Salesperson



Average: 10263240 Count: 12 Sum: 51316200

	Sum of Total Sales
21705800	
22871600	
35062000	
17747200	
97386600	

	Sum of Total Sales
Bore Gauge	1302000
CMM Probe	42600000
Depth Gauge	490000
Dial Gauge	2521800
Feeler Gauge	284800
Height Gauge	2995000
Micrometer	348000
Profile Projector	39710000
Surface Roughness Tester	6925000
Vernier Caliper	210000
Grand Total	97386600

	Sum of Total Sales
Amit	423800
Anjali	421400
Arjun	2737200
Meera	27991000
Neha	19742800
Priya	12151000
Rajesh	14182000
Ravi	1287200
Suresh	15633400
Vikram	2816800
Grand Total	97386600

Creating Pivot Charts for Visual Representation

What is a Pivot Chart?

A pivot chart is a dynamic chart tied to your pivot table, automatically updating as the pivot data changes.

Steps to Create a Pivot Chart:

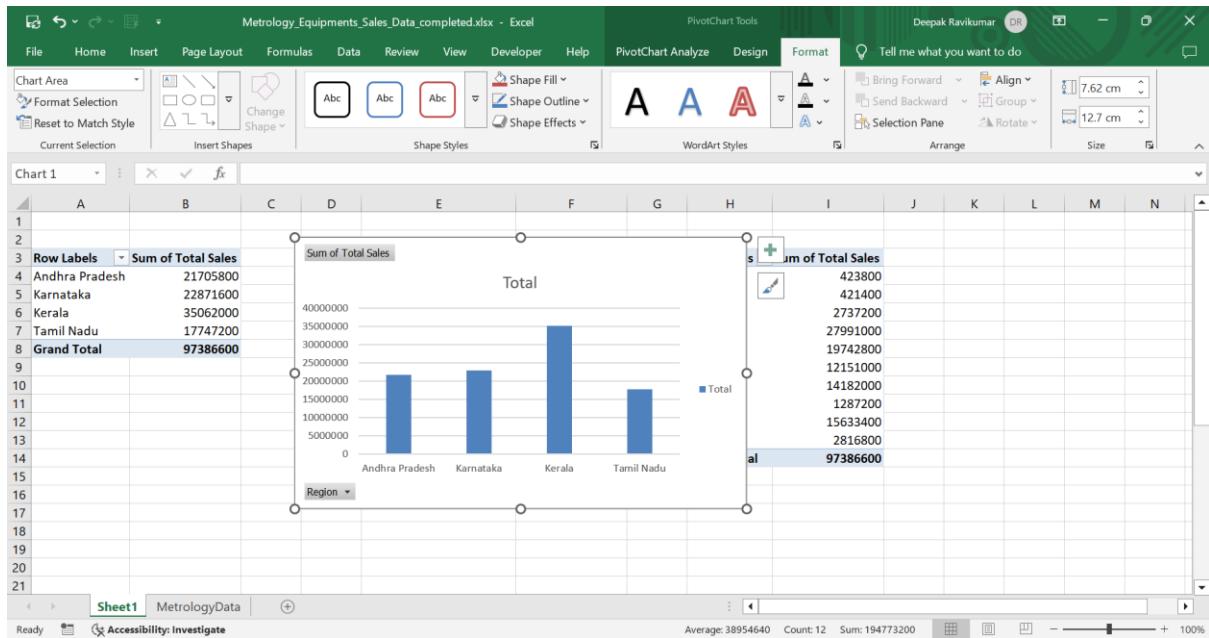
1. Click inside a pivot table.
2. Go to Insert → PivotChart.
3. Select the chart type: Column, Line, Pie, etc.

Screenshot of Microsoft Excel showing a PivotTable named "PivotTable1". The PivotTable displays sales data by Region (Andhra Pradesh, Karnataka, Kerala, Tamil Nadu) and Product Type (Bore Gauge, CMM Probe, Depth Gauge, Dial Gauge, Feeler Gauge, Height Gauge, Micrometer, Profile Projector, Surface Roughness Tester, Vernier Caliper). The total sales for each region and product type are shown in the "Sum of Total Sales" column.

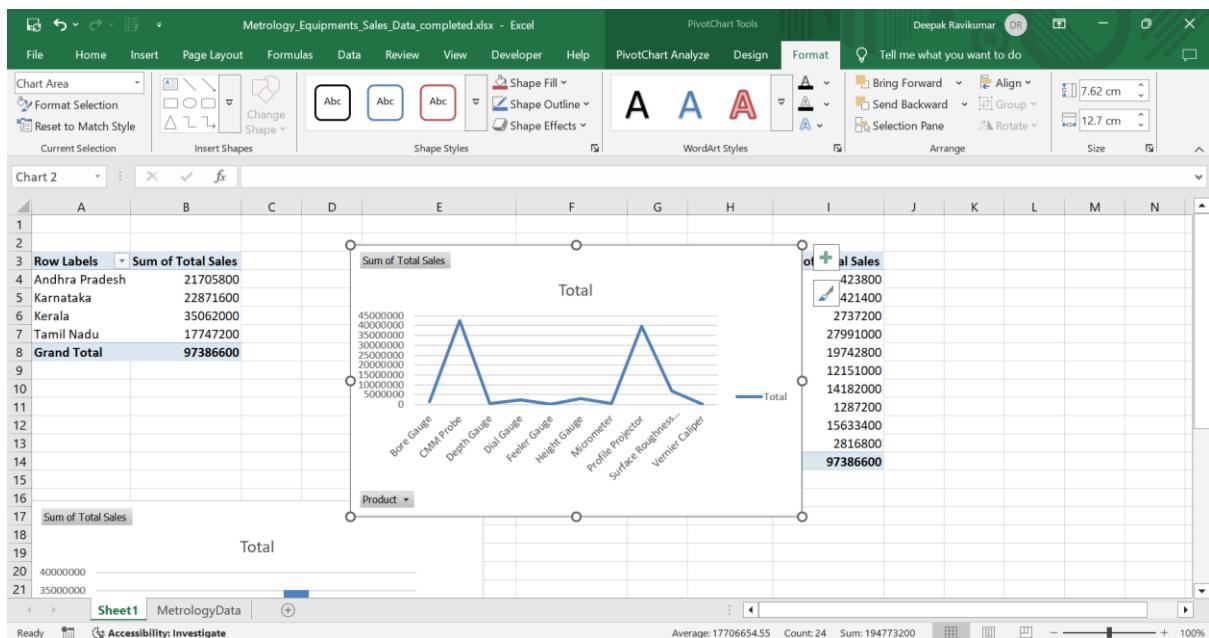
Screenshot of Microsoft Excel showing the "Insert Chart" dialog box. The dialog shows various chart types: Column, Line, Pie, Bar, Area, XY (Scatter), Map, Stock, Surface, Radar, Treemap, Sunburst, Histogram, Box & Whisker, Waterfall, Funnel, and Combo. A preview of a clustered column chart is displayed, showing sales totals for Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu.

Recommended Chart Types:

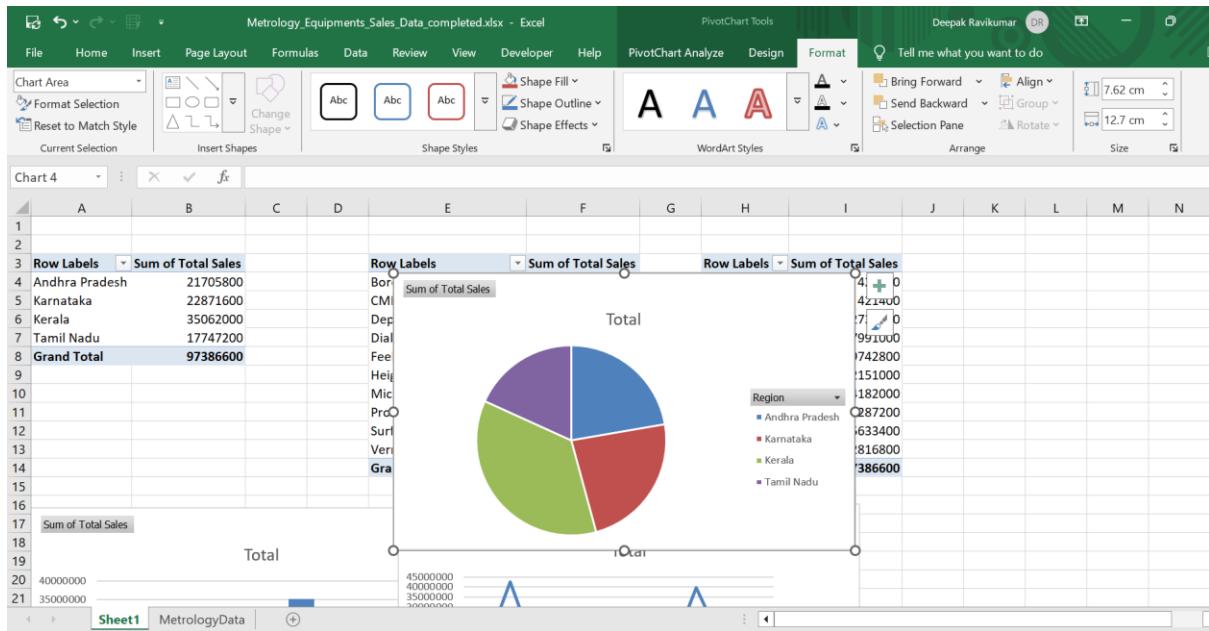
- **Column Chart** – Great for comparing sales across regions



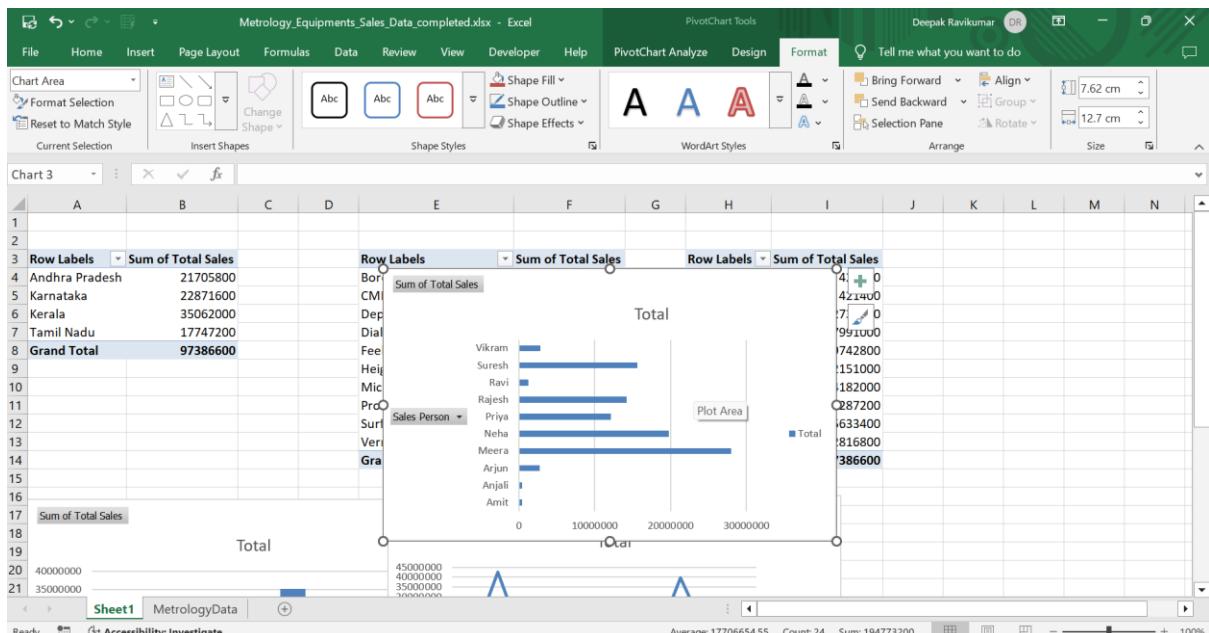
- **Line Chart – Ideal for showing trends over time**



- **Pie Chart – Visualize share of categories (e.g., product category)**



- **Combo Chart – Combine two chart types (e.g., line and column)**



Formatting the Charts:

- Add Data Labels
- Change Chart Titles
- Modify Colors for clarity
- Use “No Fill” for backgrounds to reduce clutter

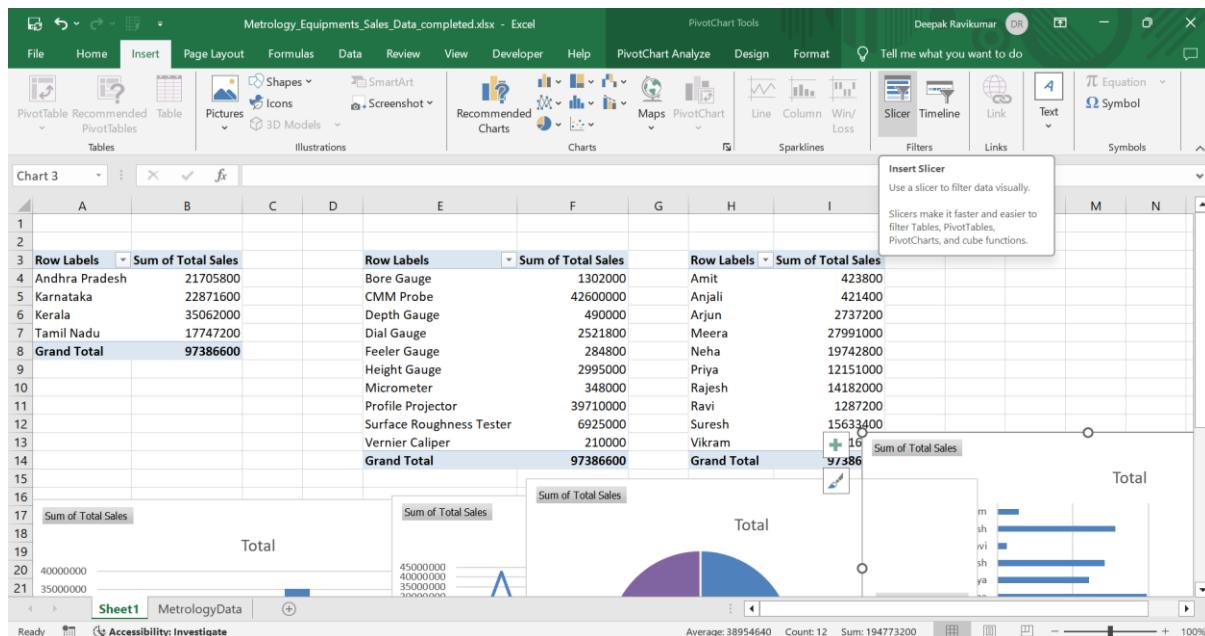
Using Slicers for Interactive Filtering

What is a Slicer?

Slicers are visual filters that allow users to interactively filter pivot tables and pivot charts with a click.

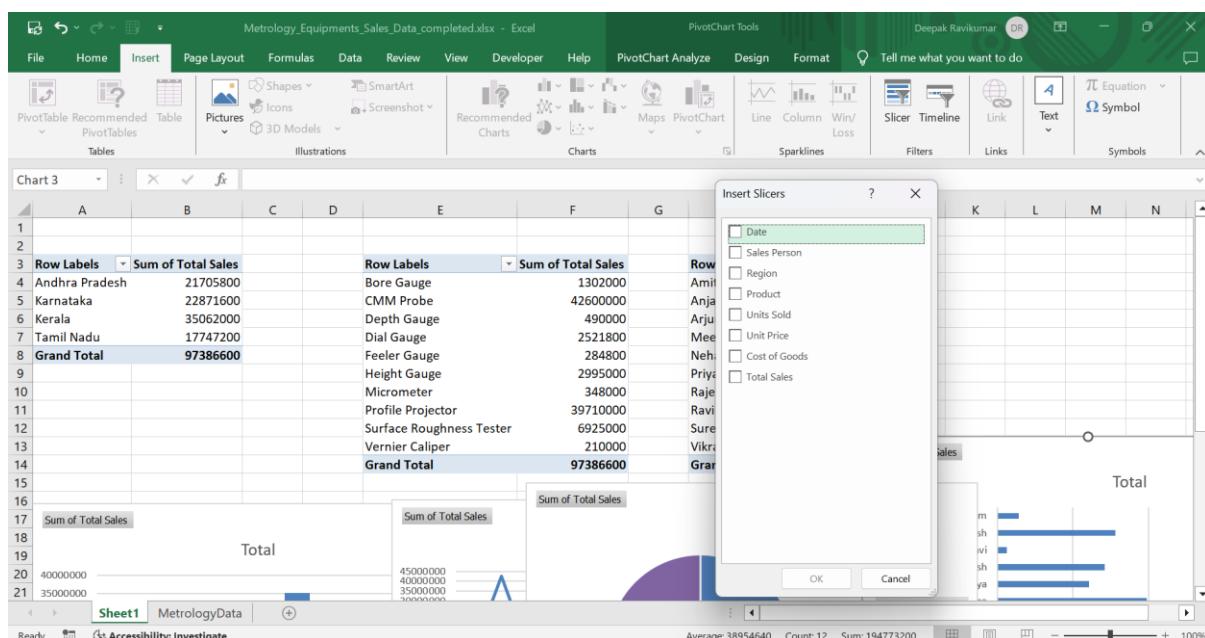
Steps to Insert a Slicer:

1. Select your pivot table.
2. Go to Insert → Slicer.

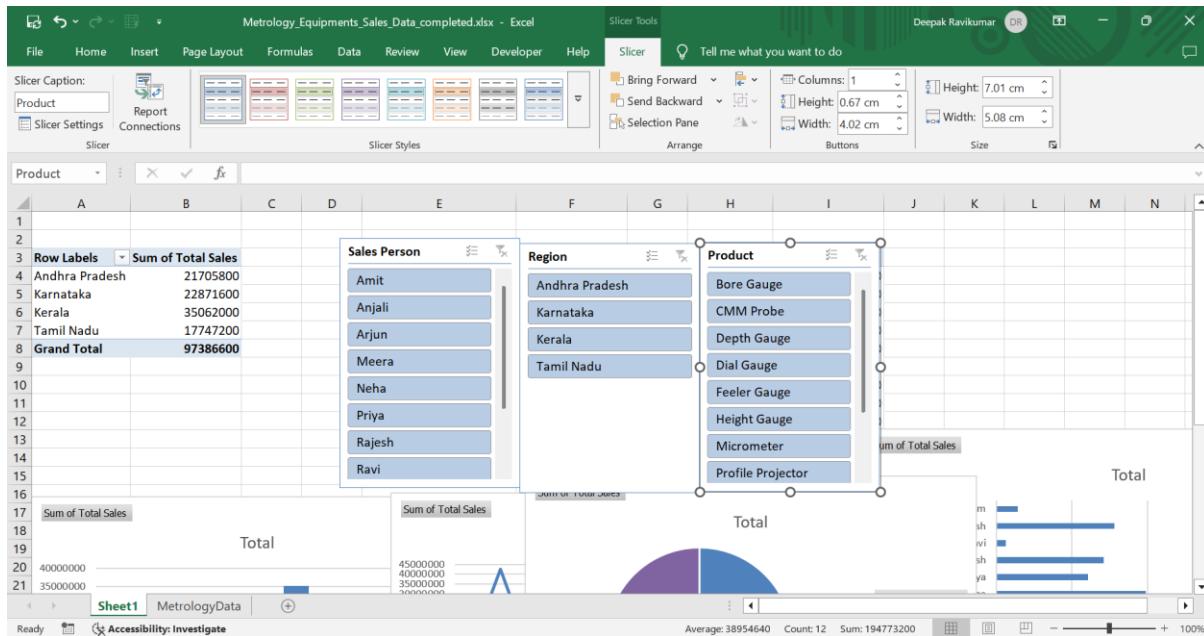


A screenshot of Microsoft Excel showing a PivotTable and a PivotChart. The PivotTable is located in the main worksheet area, displaying data such as Region, Product, and Total Sales. The PivotChart is a pie chart representing the total sales. The ribbon at the top has the 'Insert' tab selected. A tooltip for the 'Slicer' button is displayed, explaining its function: 'Use a slicer to filter data visually. Slicers make it faster and easier to filter Tables, PivotTables, PivotCharts, and cube functions.'

3. Choose the fields you want (e.g., Region, Salesperson, Product).



A screenshot of Microsoft Excel showing the 'Insert Slicers' dialog box. The dialog lists various fields that can be used to create a slicer: Date, Sales Person, Region, Product, Units Sold, Unit Price, Cost of Goods, and Total Sales. The 'Sales Person' checkbox is checked. In the background, the same PivotTable and PivotChart are visible as in the previous screenshot.



Using the Timeline:

For date-based filtering:

1. Select the pivot table.
2. Go to Insert → Timeline.
3. Choose a Date field.
4. Users can scroll or click to filter by month or quarter.

Connecting Multiple Pivot Tables:

1. Right-click on slicer → Report Connections.
2. Select all relevant pivot tables to control them simultaneously.

Assembling Your Dashboard Layout

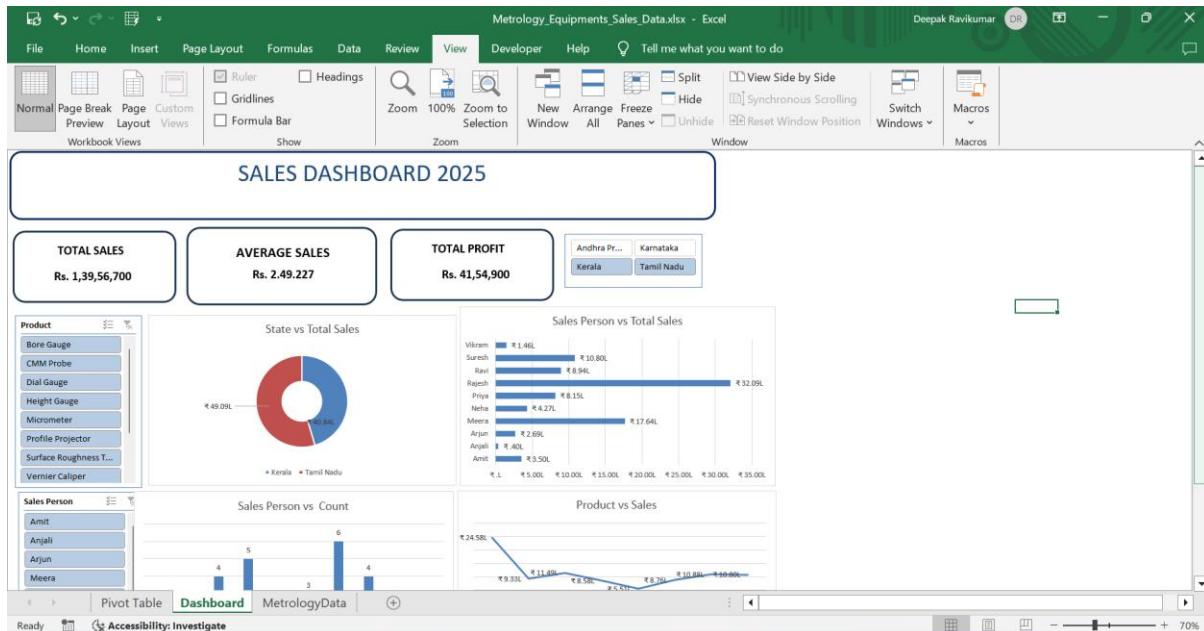
Dashboard Design Tips:

- Use one sheet for the dashboard only
- Arrange charts and slicers in a logical, grid-based format
- Use consistent color schemes
- Group related metrics together
- Add headers for sections (e.g., "Sales Overview", "Region Filter")

Step-by-step Assembly:

1. Copy your pivot charts and paste them into one sheet named Dashboard.
2. Add slicers and position them at the top or side.

3. Resize charts for alignment and clarity.
4. Hide pivot table sheets or move them to a separate tab group.
5. Add background colors, borders, or shapes using Insert → Shapes.



Final Touches and Dashboard Sharing

Protecting Your Dashboard:

- Lock sheet to prevent accidental edits (Review → Protect Sheet)
- Hide pivot tables/data sheets
- Use drop-downs or form controls for enhanced UX (optional)

Exporting the Dashboard:

- Export to PDF: File → Export → Create PDF
- Share via OneDrive or SharePoint for collaboration

Dashboard Creation Case Study (Practice)

Dataset: Sample Sales Data

Fields include:

- Date
- Region
- Salesperson
- Product Category

- Units Sold
- Revenue

Task:

1. Create Pivot Tables for:
 - Revenue by Region
 - Monthly Revenue Trends
 - Sales by Product Category
2. Create Pivot Charts:
 - Column chart (Revenue by Region)
 - Line chart (Monthly Revenue Trend)
 - Pie chart (Sales by Product Category)
3. Add Slicers:
 - Region
 - Salesperson
 - Product Category
4. Create a Final Dashboard Sheet:
 - Add all visualizations
 - Apply design polish
 - Export the finished version as PDF